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ABSTRACT

Visits were conducted to 20 libraries, networks, or services in the United States, Great Britain, and Scandinavia to study the facilities and management techniques involved in the automation of cataloging and/or acquisitions departments. Of the total number of visits, 3 were made to public library situations, 3 to commercial services, and 16 to academic settings. Descriptions were made of the system at each library and its plans for change. It was concluded that most of the libraries observed were still very involved in designing and implementing the technical aspects of their systems and were not yet at the point of considering the implications of automation in terms of work flow and staffing changes. The one consistent departure from conventional work flow patterns was the separation of cataloging-with-copy procedures from catalog departments and making these procedures an intrinsic part of the acquisitions process. It is possible that in the future cataloging and acquisitions departments could be merged into a single technical services division whose computer and staff would handle all such processes. (Author/SL)

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INNOVATIVE DESIGNS FOR ACQUISITIONS AND CATALOGING DEPARTMENTS AS A RESULT OF LIBRARY AUTOMATION

A Report to the Council on Library Resources

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CLR Fellow, 1973-4

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INTRODUCTION

At the time that I submitted my application for a Council on Library Resources grant to study innovative systems in acquisitions and cataloging, the Case Western Reserve University Libraries were active participants in the Ohio College Library Center (OCLC) system and I was heavily involved in the OCLC Advisory Committees for Cataloging, Technical Processing and Serials. It was through the discussion of these committees that I was becoming aware that systems like OCLC could have tremendous impact on the organization and operation of Technical Services Departments of libraries. The fact that one operator, at one terminal would have access to all the files in the system presented many new possibilities for the processing of materials, and suggested deviations from conventional work flow and staffing patterns.

At about the same time, there was much talk about new management concepts; members of the CWRU staff were attending Management by Objective seminars and it was announced that the CWRU libraries would be one of the second group of libraries to participate in the Management Review and Analysis Program (MRAP) of the Association of Research Libraries. I was selected to be on the study team of MRAP, I continued to attend advisory committee meetings at OCLC, and I thought intermittently about the reorganization of our Technical Services Departments. But in my own mind there was little or no connection between the development and design of the OCLC sub-systems and the various management activities that were taking place. These were two separate activities, travelling on parallel tracks.

Because MRAP demanded such a heavy investment of time and effort, I found it necessary to delay the start of my travels on behalf of the CRL grant. I feel now that this delay was a fortunate happenstance; it was during the latter part of MRAP that I came to realize that there were more than technical details to be considered in the reorganization of Technical Services, and that to a large extent the problems involved in such a reorganization were of a management nature rather than a technical nature. When we were in a position to know how the new sub-systems would look, how they would function, and how they would interface with each other, it would then be necessary to redesign work flows to make maximum use of the capabilities of the system, and to define, place and train the proper staff to the same end.

One of the recommendations that resulted from MRAP was for a reorganization of the Technical Services Departments of the CWRU Libraries. By this time the two tracks were converging at a central point and the management and technical aspects of the reorganization were becoming part of one overall picture. I served on the Task Force to study and make recommendations regarding the reorganization for only a brief period -- from the start of its deliberations until the beginning of my sabbatical -- but long enough to convey my conviction that the core of all Technical Services operations should be the OCLC system, and that the functions of Technical Services should radiate from this core.

As I started to visit libraries I hoped to find some with similar ideas and some with widely divergent ideas so that there would be a basis of comparison of the merits of the various ideas, and enough documentation to

support a solid recommendation for an optimal design of an automated Technical Services area.

SELECTION OF VISITING SITES

During the course of this study, visits were made to twenty libraries, networks or services. The selection of the visiting sites was made on the basis of published data describing on-going systems, and as a result of recommendations by people who are knowledgeable about the latest developments in the field of library automation. Priority consideration was given to those institutions that had automated their cataloging and/or acquisitions departments; it was felt that these two areas would present as many ideas and problems as this study could encompass and that the additional consideration of changes in serials departments would provide a range of complexities that might better be studied in a separate context.

Some of the originally planned visits were not made because the libraries involved were in the midst of changing equipment, programs, and procedures, and there would have been little point in observing their operations during this transition period. Notable among these were Northwestern and the University of Chicago. The visit to the University of Toronto was cancelled because the Associate Librarian felt that nothing of particular note was happening at the present time; in place of this visit a trip was made to the University of Western Ontario to learn about the Ontario University Library Co-operative System (OULCS), and additional trips to York University and the University of Guelph demonstrated how the participants are preparing for the growth of OULCS. The visit to Loughborough, England

was given up in favor of one to Birmingham because it was felt that this latter project would be more germaine to the subject of my study. The planned visit to the Library Information System (LIBRIS) in Stockholm became four separate visits -- one to the offices of the directors of the project and three to libraries to see the system in operation and to have personal hands-on experience with it. Of the total number of visits made, three were public library situations, three were commercial services and sixteen were in academic settings. This latter number represents seven individual library systems and four networks. It should be noted that the visit to the BALLOTS system at Stanford University was made in July of 1973 in conjunction with the BALLOTS conference. Because of financial and scheduling constraints a return visit was not made during the period of this study but a telephone conference was held to obtain information on their latest thinking. All three of the public library situations were network operations and two of these were commercial services. The one remaining visit was to the main offices of the Richard Abel Company which has well-developed acquisitions and cataloging procedures for acquiring the titles it distributes through its various services, and providing its customers with either Library of Congress or original cataloging copy.

In retrospect this seems to have been a good choice of libraries for two reasons. I was able to observe systems in various stages of development and to discuss the considerations that were felt to be important in planning for the future. From the management point of view, I had the good fortune to speak with the officer in charge of implementing the Columbia Management Study as well as to visit one library that had gone

through MRAP concurrently with CWRU, one that was in the early phases of MRAP and one that is planning to start within the next few months.

I think I made an error in that I planned my itinerary so closely that there was little or no flexibility in my schedule. This was particularly true during the European part of my trip. There were two projects in England that I would have liked to observe since I was already in that country, but I was not able to make the time. There is also a new library in Roskilde, Denmark that I learned about during my last few days there that might have been one of the most important visits of all, since they combined the cataloging and acquisitions procedures into one department from the time the library was begun. My host at the Danmarks Tekniske Bibliotek was kind enough to contact the Roskilde authorities and have them forward some information, but a personal visit would have been helpful since the forwarded information is largely in Danish.

It is important to state that wherever I went, everyone, from terminal operators through administrators, was familiar with OCLC and eager for any information I could add to what he already knew. I think it is fair to say that during most of my visits I gave as much information as I received.

DESCRIPTION OF AUTOMATION PROJECTS AND PLANS FOR CHANGE

ACADEMIC LIBRARIES

Columbia University has an acquisitions system that permits the entry of materials into the system either at the time of ordering, as in the case of rush or regular orders, or at the

time of receipt, as in the case of gifts, back orders, standing orders, monographic series, etc. The data becomes available in a hard copy In Process List (IPL) which contains some bibliographic information but is not a full cataloging record. An entry remains in the IPL for four months after cataloging to be sure that the title appears either on the list or in the public catalog. The system has a function that permits processing updates which reflect the location of materials while they are in process or in backlog.

It is anticipated that there will be a cataloging system in the coming year which will generate a request to search a Record Directory to the MARC tapes for a bibliographic record, give a hard copy of that record to facilitate the cataloging process, permit changes in an active file, and put the updated record into a permanent bibliographic file. If the record is not in the MARC data base, it will be possible to input original cataloging directly to the active file.

At the present time, Technical Processing is still arranged by conventional departments which fall into two groups: the Library Resources Group includes all functions of bibliographic control -- cataloging with copy, original cataloging, catalog maintenance and special projects; the Technical Support Group includes all business connected activity -- acquisitions, gifts and exchanges, physical processing, card production and data

control. No basic work flow changes are currently being planned as a result of automated cataloging and acquisitions procedures but there have been some changes in the Acquisitions Department which have to do with the nature of the positions within the department. Positions are generally different due to such factors as the elimination of some filing activity because of information distributed via the IPL, and the fact that all bookkeeping is done in the system and linked to the University controller. It is anticipated that when the cataloging process is automated and cataloging is done in the full MARC format, the cataloging-with-copy staff will be upgraded.

Danmarks Tekniske Bibliotek (DTB), the Technical Library of Denmark, is the central library of the technical university as well as the national technical library of the country. It presently has a batch cataloging system which is used to produce book catalogs for all materials published since 1968. Cataloging of older materials is still maintained in the card catalogs. There is a proposal developed by DTB and the University Library of Roskilde for a batch acquisitions system that can be built on to the cataloging data base, and that has already been implemented at Roskilde. In addition, there is another proposal for a union list of the holdings of DTB and its two branches, and eventually the other Danish research libraries; this system will also be built on the cataloging already in the data base.

The DTB does not expect any major changes in organization and work flow, but does expect to combine acquisitions and cataloging more closely. All such changes must be approved by a legally required council of staff representatives which may be opposed to this plan since they are interested in maintaining as many high positions as possible. In view of this, any merger of these departments will be made slowly and gradually. Since the University of Roskilde Library was newly organized, the cataloging and acquisitions functions were established as part of one department from the outset and the organizational plan was not subject to the same scrutiny. There was not time enough after I learned about Roskilde to arrange a visit, but they were kind enough to forward a work flow diagram. I hope I will be able to translate and interpret it well enough to use as support for the conclusions of this study.

Oregon State University has an on-line acquisitions system called LOLITA (for Library On-Line Information and Text Access). New orders are input daily, purchase orders are printed once or twice a week and fund accounting and vendor files are updated at that time. The number of staff involved in acquisitions procedures has not changed since the birth of LOLITA (3) but there have been improvements in the products of the department. LOLITA has eliminated some manual functions such as typing work slips for the Catalog Department and state-required purchase order information on shelf lists, freeing staff to absorb some of the work load of serials

control. The LOLITA system is utilized to produce a full range of financial reports for management information purposes as well as a new acquisitions list that was previously prepared manually. The data base contains enough cataloging information to be used for future book acquisitions and to complete the new acquisitions list but it is not being considered as a base for a cataloging sub-system. There are no plans for such a system because there is some hope that this might be done on a state-wide basis and funded by the state. If money were available to augment LOLITA, the next module to be designed would be one to control serials holdings.

Stanford University's BALLOTS is an on-line acquisitions and cataloging system. It presently serves the Stanford University Libraries but plans to become a Northern California network in the BALLOTS III phase of development (1974-75). At the time of my visit to Stanford in conjunction with the BALLOTS conference in July 1973, the cataloging sub-system was not yet fully operational; the input of original cataloging had not yet begun. Conferences with the various department heads of Technical Services revealed that they were still involved in the basic operations of the system and were not yet ready to plan for the organizational changes that would come as a result of BALLOTS.

A telephone conference at the time of this writing indicated that Stanford is at the same point as several of the OCLC libraries, i.e. actively planning for the changes that can be realized as a

result of automation. Their thinking is not yet solidified to the degree that they will describe a specific plan for the reorganization of Technical Services or define the kind of staff that will be necessary to implement that plan. Discussions to date indicate that Technical Processing may have a two-unit structure; one unit would be responsible for the ordering, receipt and cataloging-with-copy functions while the other would be responsible for original cataloging and serials control.

It will be especially interesting to compare the structure that evolves from BALLOTS' deliberations to those that are being planned by OCLC participants because the two systems are so similar in design. The largest single difference seems to be that BALLOTS will not have automated check-in of serials.

The University of Massachusetts has two separate operations for the acquisitions and cataloging of materials. The Technical Services Department purchases and catalogs for its own Amherst campus. A separate unit within Technical Services, The Massachusetts Central Library Processing Service (MCLP) purchases and catalogs materials for twenty-nine other campuses within the state. This latter unit is funded by the state, creates its own selection lists, generates its own purchase orders, pre-catalogs as many titles as possible from MARC tapes, sends books, cards, pockets and labels to the participating libraries, and generates its own management information reports. This system functions primarily in a

pre-cataloging mode which combines acquisitions and cataloging in one work flow. When the order information is input, the LC card number is run against the MARC tape, catalog cards and labels are produced and held in the book pocket for the receipt of the book. About 10% of the cards need correction after the book is received. Titles which require original cataloging are processed in the conventional manner, after the receipt of the book. (5)

Processing of materials for the University itself follows the more usual path of going through an on-line ordering system, through the Information Processing Department which does cataloging with copy, or through Original Cataloging, if necessary. Pre-cataloging had been a feature of this system, administered in a way similar to the MCLP, but was abandoned in favor of processing after receipt of the book. At this time, LC card numbers or ISBN's are run against MARC tapes, an edit sheet of cataloging copy is produced and verified, and catalog cards are automatically produced ten days after the MARC search, allowing enough time for corrections to be made to the data base. Key punchers punch the entire text of non-MARC copy for original cataloging copy.

At the present time the direction of further growth of the automated system is not definite; it is felt, however, that the next module to be developed would be circulation rather than on-line cataloging since this is one of the library's more pressing needs.

Washington State University has an on-line acquisitions system named LOLA. This is really a sub-system that was planned to be part of a total automated library system which would eventually encompass cataloging, processing and circulation as well as acquisitions. At the time of my visit, it was planned that cathode ray tubes would be installed during the summer of 1974 to enable the system to do searching, catalog cards and spine labels. It was too early then to know how these operations would affect the organization of Technical Services. As far as staffing was concerned, it was felt that there would be a need for more people in mid-level positions and that there would be a need for more decision making at this level. In addition, it would be necessary to develop management skills that would enable supervisory staff to detect and handle machine problems, software problems and people problems.

The Yale University acquisitions system is probably the most complete of any that I observed in terms of the information that appears on its In-Process and Order Number Lists, and the number and variety of its management information reports. The system was designed to control all the processes through which materials must go, from first request through shelving of an item and filing of catalog cards. The In-Process List and its cumulated daily supplements show the changes in status of a title as well as changes in author, title, series, call number, requesting department, etc.

in more detail than most other acquisitions systems. Examples of the kinds of management reports that are generated are: percent distribution of time in selected statuses, average days from order to delivery, interstatus flow (monthly report), titles being invoiced at more than $50.00, or exceeding the estimate by more than $30.00 and titles expected on blanket order.

Yale has OCLC terminals which were being used by only a few departments at the time of my visit; there were plans, however, for increased participation and use. In view of this, Yale is not planning its own on-line cataloging sub-system. While the actual cataloging of a title is done in the conventional manner, the acquisitions system does monitor the flow of work through the cataloging department and can locate a title at any time. After the cataloging is complete, there is a procedure for inputing data that is supplied on work sheets by the catalog department, and that then produces catalog cards.

There have not been substantial changes in work flow or the number and caliber of staff since the beginning of automation, but there has been an improvement in the quality of the product as well as other noticeable improvements; the library always knows its financial status, any book can be located at any given time, and because of the statistics that can be derived from its various reports, the library has been able to set standards for work loads.

NETWORKS

The Birmingham Libraries Co-operative Mechanization Project (BLCMP) is a network that was begun with the University of Birmingham, the thirty-six branches of the Birmingham Public Library and the University of Aston (a technological university). It was originally intended that other libraries of the region would be invited to join after the initial development efforts were complete and accordingly, Birmingham Polytechnic is the fourth member of the network. BLCMP hopes to be connected to other regional centers to form a national network which, in turn, will cooperate with networks in other countries.

The data base now consists of monographic and serial bibliographic records as well as music and other non-book materials. A serials control system will be designed, utilizing the present data base. Still using this data base as a foundation, a book selection and acquisitions system will be designed, hopefully by August of 1974, so that it can be funded by the next OSTI grant. Eventually BLCMP will encompass inventory control, interlibrary loan and other information services (9). The degree to which the acquisitions department is involved now is that it divides all incoming materials into MARC and non-MARC groups. Both groups are then sent to cataloging but are processed differently. MARC records are altered to reflect local information; non-MARC materials get a new bibliographic record as well as local information. It should be

noted that BLCMP's definition of local information is much broader than OCLC's: series are always a local option since some libraries chose not to reflect series at all; collation and dates for multi-volume works are also local options, so that unless one of the libraries has complete holdings of a title, there will not be a complete bibliographic record for that title. The cataloger's complete work forms which are punched on paper tape, then go to magnetic tape and finally results in 1) a weekly run of MARC records to verify against books, 2) locally produced records, and 3) a list of duplicate records which have been overwritten. Because this system operates on a weekly time-table, the week's work has to be kept together and this requires a larger degree of organization than was previously necessary. Other than this, there have not as yet been any definite reorganizational plans resulting from the use of automation.

Camdenborough Public Libraries, London was formed in 1965 from three other districts. The cataloging practices of the three systems was widely diverse, the book catalogs they were using were becoming cumbersome, expensive, and took too long to produce, and the cataloging systems were not integrated with the circulation systems. These factors led to complete rethinking and reprogramming for the entire system.

The system uses a mini computer which stores records for all books on order and those already cataloged but not yet in the

Computer Output on Microfilm (COM) file. In effect the mini computer record functions as an In Process List. When a library wishes to place an order, it searches the COM file on a VDU (Visual Display Unit, or CRT). If the title is already in the data base, it places the order by adding the ISBN, vendor, and name of the ordering library. If the title is not in the data base, the library adds enough bibliographic information to identify the item to the vendor, and the computer prints orders in a batch mode once a week. When the book is received, a librarian identifies it as the correct item, reverses the encumbrance, makes decisions about which library has priority in the case of a partial shipment, and assigns accession numbers. It is felt that a librarian is needed to do this receiving function because there is a large amount of decision making involved. From here all titles go to the Cataloging Department for original input; there is no thought at present about using LC or BNB MARC.

It is anticipated that the libraries will have basically the same organizational patterns as they have now. They are planning to input introspective (pre-1965) cataloging and it is felt that this will hasten the current cataloging process because the staff will have access to previous records.

The library uses a borough computer that handles all automated functions of municipal government. Some feeling was expressed

that more efficient application of the computer to library problems would be effected if one computer center and a staff oriented to library procedures were assigned to all the libraries in the London area, rather than have a partial effort and lack of expertise contributed by each borough to the libraries within its jurisdiction.

The Library Information System (LIBRIS) is a network intended to serve the twenty-two research libraries of Sweden, and possibly public and industrial libraries as well. At the time of my visit to Sweden there were six participating libraries and the system was up and working only two hours a day. Plans were underway to increase this time to four hours by October 1974. My observation of LIBRIS included a visit to the offices of the Swedish Agency for Administrative Development (SAFAD) and three universities that are participating in the system: The Royal Library of Stockholm, the Royal Institute of Technology Library and the library at the University of Linköping. However, the visit to the Royal Technological Library was scheduled at an hour when the system was not in operation and the time was spent observing and operating the terminal that connects with the European Space Research Organization data base in Rome.

LIBRIS is planned to eventually integrate acquisitions, cataloging, serials control and circulation into a single system (11). At the time of my visit only the search and cataloging functions had been implemented; catalog cards were being produced but still had

problems that caused them to be unusable. At Linköping the Catalog Department therefore was making stencils to produce catalog cards as well as inputing the cataloging data to LIBRIS, causing a double work load. Because the system is up only two hours a day, it is necessary for the libraries to work in a batch-mode as well as on-line, using paper-tape punches. The result of the tapes and the direct input to the terminal results in the first LIBRIS product, "AKN: the Union Catalog of Foreign Literature in Swedish Research Libraries."

The libraries have not implemented any organizational changes yet as a result of LIBRIS; it will be difficult to know what impact it will have until the libraries are able to use it in a more concentrated manner. It is anticipated that cataloging with copy will not go into the Catalog Department; it would be part of the acquisitions function and only titles not yet in the data base would go to the catalogers. When LIBRIS starts using LC and BNB MARC tapes the number of titles requiring original cataloging should decrease considerably.

An interesting idea for reorganization was expressed by one of the persons interviewed; he is thinking about the possibility of dividing Technical Services into working units by type of material, i.e. new books, old books, new periodicals, old periodicals. Since each group would have access to all the files in the on-line system that it needs, it would have full responsibility for its materials, from pre-order search through final processing. This is still only an

idea rather than a definite plan, and none of the details have been worked out, but it was the only radical departure that was presented in all the discussions that I had.

The Ontario Universities Co-operative Library System (OULCS) is planned to be a provincial network. It will include academic and public libraries in Ontario and Quebec. The initial group consists of six Ontario libraries, two Quebec libraries and the national library in Ottawa. In the course of my study I visited the libraries of the universities of Western Ontario, York and Guelph to observe the system in use and the way in which the libraries are preparing for its growth.

The sub-systems now functioning are cataloging and a Browser program. The cataloging system produces catalog cards but there are problems with them that make them difficult to use; e.g. there is too much variation in format, profiling is not complete, indentations are wrong, and improper delimiting causes problems in the overtyping of added entires. The quality of the cards is rapidly improving as are the operational problems of the terminals and the down time on the computer. The Browser program is a fine searching tool and at the present time is the only author access to the system; it is somewhat cumbersome because it requires the input of the full title of a work, and because it is necessary to go to the beginning of the full search procedure for each bibliographic record that is to be examined.

The base of the OULCS system was supposed to have been the University of Toronto's on-line catalog of 500,000 entries. It was assumed by the OULCS participants that more of the designing and programming had taken place than actually was the case. As a result much of the designing is being done now in what was supposed to have been the implementation year (12). Ultimately the system will include interlibrary loan, acquisitions, management reports, serials control and circulation control capabilities. It is planned that member libraries will maintain their own acquisitions systems but will indicate in the OULCS system that a title has been ordered and then that it has been received.

Since this is actually an experimental period, there has not been enough work with the cataloging module to know what kinds of organizational changes will result; it is anticipated, however, that there will not be many changes, but rather that most operations will be done in the same work flow pattern, and that they will be done faster, by fewer people.

The Rutgers University CAPTAIN (Computer Aided Processing and Terminal Information Access Network) system has been planned to eventually serve New Jersey libraries, including private institutions, the state colleges, and the state library; to date it is serving Rutgers University and two state colleges. It differs from the networks described above in that it receives, processes and forwards books to the ordering libraries as well as handling

bibliographic and acquisitions data through the terminals and computers. CAPTAIN will ultimately have a serials and interlibrary loan system as well as acquisitions and cataloging.

Since the advent of CAPTAIN the main change in work flow has been the transfer of the cataloging with copy function from the Catalog Department to the Order Department. If a title is on MARC, the system delivers a hard copy work sheet which is checked against the book. If the copy is not on MARC, it is possible to store information and provide interim cataloging, or to input original cataloging. There seemed to be some concern among the Order Department Staff that because there is now a need for greater accuracy (due to the fact that all the later products of the system are dependent upon the original input) each transaction takes more time and causes a heavier work load for the department. There seemed also to be a lack of appreciation of the overall plan of the system and the possibility that an increased work load in one area might effect greater savings of money and effort in another area, and in the entire system.

The Joint University Libraries (JUL) in Nashville is not really a network, although it serves Vanderbilt University, George Peabody College and Scarritt College. While this visit was not pertinent to the subject of my study, it was a fine opportunity to observe an operating PPBS system. The Technical Services departments of the three institutions have been gradually centralized over the last

three years but no changes are being planned in the acquisitions and cataloging procedures until JUL (as part of the SOLINET network) receives its terminals and begins to participate in OCLC.

COMMERCIAL SERVICES

The Richard Abel Company has a variety of plans by which it supplies books and cataloging services to its customers. In its Standing Order and Approval Plan, a computer produced transmittal sheet is utilized which combines some elements of bibliographic data and acquisitions data that is checked by one clerk; it is then passed on to the next higher grade clerk who checks the series information, and then on to a still higher grade clerk who is responsible for final editing and input of the data to the CPU.

Abel has organized its activities around a group work situation rather than an assembly line principal, the work group being built around a group of customers. Each group is fully responsible for its output. Cards and labels from the computer are matched to the books, the books are fully processed, and the group prepares the billings. Staff verifies its own work, with only occasional spot checking by supervisors. There is in addition an incentive pay plan which pays a bonus for all work done over a specified amount. After the initial period of operating under this system (during which time production was low) there was a noticeable increase in production, better quality of work and less turnover

of staff. Materials which require original cataloging are isolated from this work flow and sent to a staff of original catalogers for their professional attention.

Bibliotechjänst is a profit making organization set up under the aegis of the Swedish Library Association to serve Sweden's two hundred and eighty-five public libraries and their branches (about 1200 in all). It reviews, annotates, purchases, binds, catalogs and distributes all Swedish language materials, and is planning now to offer among its services in processing books in other languages. The purchasing of books from publishers and the binding, processing and labelling are done in Stockholm while the cataloging is done in Lund, the home city of Bibliotechjänst. Catalog cards are forwarded to the distribution center in Stockholm, matched with the shipment of books for each library, and forwarded to the individual branches. Foreign books (any language other than Swedish) are purchased and cataloged by individual libraries and the bibliographic information forwarded to Bibliotechjänst for inclusion in its union catalogs so that the information will be available for interlibrary loan purposes. As Bibliotechjänst develops the capability of servicing books in languages other than Swedish, this work load will be removed from the individual libraries. The automated parts of the above procedure are the compilation of lists of libraries to receive specific titles, transactions with vendors, and book catalogs.

Connected to Bibliotechjänst is a system called BUMS which will be building a cataloging system, and is doing retrospective conversion of holdings in order to install automated circulation systems in the libraries. Three of the major systems have already been installed and the remaining libraries will be completed as the work load can be absorbed. There will someday also be a serials control system but it is not yet being planned.

Bibliotechjänst does not use MARC tapes now but plans to do so in the future in order to be compatible with other networks.

Bibliotechcentralen is a Danish system similar to the Swedish Bibliotechjänst, except that it is a private enterprise and is not under the aegis of the library association. Since public libraries are owned by local governments and receive a state subsidy, the state can enforce standards and Bibliotechcentralen is subject to regular inspection of services. An EDP project named FAUST (Folkebibliotekernes Automations System, or Automation Systems in the Public Libraries) has been designed to convert catalog records, produce union catalogs, handle accession and circulation routines, provide management information reports, and aid in cooperation between the individual public libraries and the central institutions (14).

FAUST will use BNB MARC and will adopt AACR rules so that it can cooperate in an international exchange of data. The overall

plan consists of five phases; the first phase will start in May of 1974, it will be the one in which the system is designed and will not have active participation of libraries. The plan will culminate in five or six years in a fifth phase, with communication between the system and individual libraries, and will connect libraries to each other for interlibrary loan and inter-circulation purposes.

SUMMARY AND CONCLUSION

In the course of these observations, it was disappointing but understandable that I did not find more concrete evidence of change, or more definite plans for future change in Technical Services Departments as a result of automation efforts. It was disappointing because the climate in many of the OCLC participating libraries as well as in the OCLC Technical Advisory Committees is one of change and preparation for growth; it was my expectation that I would encounter this same atmosphere as I visited other libraries and networks. What I found instead was that most systems are not as far along as OCLC in their planning, they are still very involved in designing and implementing the technical aspects of their systems and are not yet at the point of considering the type of work flow and staffing changes to which I addressed my questions. I say that this condition is understandable because I recognize that it is difficult, even among OCLC libraries that are trying to plan now for the ultimate system to make definite commitments to specific ideas and plans. What seems feasible and pragmatic now may look very different and have different requirements when the systems are finally up and operating.

The one consistent departure from conventional work flow patterns is the separation of cataloging-with-copy procedures from catalog departments and making these procedures an intrinsic part of the acquisitions process, as at Rutgers University, or Roskilde University. The advantages of costs and efficiency of assigning to support staff members a large volume of cataloging (some libraries quoted as much as 80%) and reserving for professional catalogers only those materials which require their expertise are obvious. It should not be assumed, however, that this phenomenon is due entirely to the advent of automation; many libraries were using support staff members to accept and modify proof sheet and depository card copy in the same way that they are now using screen displays and hard copy printouts of MARC cataloging. However, the fact that it is now recognized that the same bibliographic elements can be isolated to simultaneously serve both the acquisitions and cataloging functions, and that the computer can make this information available in ways that eliminate unnecessary handling of materials, makes the merger of these functions almost inevitable. There is so far little documentation in the literature that cites cost savings that have resulted from the merger of acquisitions and cataloging departments. However the article by Kurt Wolgang Drozd (17) shows a time savings of 50% or more as a result of utilizing this principle at the Staatsbibliothek Preussischer Kulturbesitz in Berlin am Kemperplatz.

There is still the problem of absorbing the work load of original cataloging into this combined function; hopefully the growth of the data bases of networks, the setting of uniform standards, and the realization of the

need for cooperation will create a condition where more and more cataloging is contributed by individual libraries, with perhaps each one working in the area of its strongest language and/or subject strength, so that the percentage of material handled in the combine acquisitions-cataloging mode will encompass the major part of even a research library's new acquisitions.

It is interesting to note that those libraries that were building systems to serve their own campuses started by designing the sub-systems that were most needed to solve their immediate problems, i.e. acquisitions or circulation; the networks, on the other hand, have started with the common conviction that the base of the system must be the bibliographic record and that all sub-systems will be overlaid on this foundation. The latter philosophy is true of OCLC and it is the basis of much of the planning that is being done by OCLC participants. We can anticipate a pattern in which the computer will utilize elements of the bibliographic record to generate a purchase order, that the system will monitor the transaction (encumber the proper account, claim, reverse the encumbrance, approve for payment, and generate information management reports) and after the material is received, supply enough additional data to form a catalog record. (18). We further expect that all of these transactions, from the receipt of the item through the cataloging process, can be managed by one support staff member who is sophisticated enough to learn a variety of procedures. With this general plan as a point of departure some of the OCLC libraries (Case Western Reserve University Libraries among them) have been thinking in terms of restructuring Technical Services in

such a way that the core of the entire operation would be a large enough group of terminals to absorb the work load of the library and that all functions of the division would radiate from this core. This would mean that each terminal would be utilized to do a number of functions and that each staff member would be trained to operate more than one subsystem. As I visited libraries and got involved in discussions about the changes we could expect to see in future Technical Services departments, I presented this concept when I thought it was appropriate to the conversations. There were some instances, as described in the journal portion of this report, where not much change was anticipated; it was expected that materials would be processed faster and more accurately, but not necessarily differently. However, in those instances where we talked in definite terms about future change, the reactions to this design for Technical Services were generally positive, and sometimes even enthusiastic. Some people felt that they had to think it through before they could have an opinion, while others felt that the concept of the automated system as the hub of all activites was inevitable. It was also generally agreed that such a plan would require fewer but more sophisticated staff and that, in fact, this was already an emerging pattern in many libraries.

As I stated earlier, it was not my intent to become involved in the problems of serials control, but the problem was raised so often that I would be remiss not to mention it here; there was some difference of opinion on how serials control would fit into this picture. There are libraries now with separate serials departments who are planning to

eliminate such departments by incorporating the business responsibilities into the acquisitions department and including the serials cataloging with all other cataloging. But it must not be assumed that this is necessarily a trend of the future; there are at the same time libraries who now have this division and are planning to combine serials responsibility into an entity to be known as a serials department. This difference of philosophy could perhaps be the subject of a future study.

In view of the fact that I seem to have been somewhat previous in my quest for signs of change in automated libraries, and in view of the fact that OCLC libraries seem to be closer to the point of planning for such change than most of the libraries I visited, it may be that the next logical study should be an on-going investigation of OCLC participants to see how they are preparing to absorb the Serials Control and Technical Processing sub-systems into their libraries, to see how they accommodate themselves to the new sub-systems as they become operational, and finally, to assess the correlation between the degree of planning and the success of the final structure.

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